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An EU Treasury with Eurobonds: Would it bring financial stability?

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Les llengües de treball son castellà, català, anglès i francès

Esta colección recoge una selección de investigaciones realizadas por estudiantes del Máster Universitario en Integración Europea. Previo a su publicación, los trabajos de investigación han sido tutorizados por profesores con grado doctor de diversas especialidades y han sido evaluados por un un tribunal compuesto por tres docentes distintos del tutor.

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Langues de travail: catalan, castillan, anglais et français

AN EU TREASURY WITH EUROBONDS: WOULD IT BRING FINANCIAL STABILITY?

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edició 2015-2016

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RESUM/RESUMEN/ABSTRACT: This study is aimed at exploring why many economists propose a transfer scheme and debt mutualisation for the Eurozone. This would equip the Eurozone with better tools to deal with an economic shock, like the 2010-2012 sovereign debt crisis, thus making it more financially stable. After the theoretical presentation, the study presents a unique institutional design with an EU Treasury that manages debt mutualisation and a transfer scheme as well as other competences that address other present economic challenges. Crucial to the study are the issues of moral hazard and adverse selection that arise when thinking of European economic integration.

RESUM EN CATALÀ: L'objectiu del treball és explorar la raó per la qual molts economistes proposen un sistema de transferències fiscals i la mutualització del deute a l'Eurozona. Així se la dotaria amb eines més efectives per pal·liar un xoc econòmic, com la crisi del deute sobirà del 2010-2012. A continuació, es presenta un disseny institucional únic d'un Tresor de l'Euro que gestionaria les competències esmentades (i d'altres) per combatre alguns dels reptes econòmics actuals. El risc moral i de selecció adversa, qüestions que sorgeixen en pensar la drecera que ha de prendre la integració econòmica Europea, són cabdals per aquest estudi.

KEYWORDS:

Eurozone, treasury, fiscal union, sovereign debt crisis, moral hazard, adverse selection, Eurobonds, EMU, structural reforms, fiscal rules.

Zona euro, Tresor, Unió fiscal, crisis del deute sobirà, risc moral, selecció adversa, Eurobons, UEM, reformes estructurals, regla fiscal,

ÍNDEX

LIST OF ABBREVIATIONS

EU: European Union

EMU: Economic and Monetary Union

OCA: Optimum Currency Area

EMS: European Monetary System

ECB: European Central Bank

SGP: Stability and Growth Pact

GDP: Gross Domestic Product

ECOFIN: Economic and Financial Affairs Council

TFEU: Treaty on the Functioning of the European Union

TEN-T: Trans-European Transport Network

Part 1. Introduction

While nowadays European integration appears to be at a standstill, the academic debate about the reasons that justify a more integrated European Union is as lively as ever. While in the past, integration was often fuelled by crisis (Fioramonti 2012), the sovereign debt crisis of 2010-2012 did not bring about a big leap towards integration. Rather, its outcome consisted in isolated reforms. Nevertheless, the crisis sparked the debate about where economic integration should go and scholars put forward suggestions that address the fields of fiscal policy (Vetter 2013; Bargain et al. 2013; Bordo et al. 2013) and jointly guaranteed sovereign debt (Delpla and Wizsäcker 2010; Brunnermeier 2011; Bofinger et al. 2011; Claessens et al. 2012). This last proposal is often referred to as Eurobonds.

Not only the academia was considering the future of the European Monetary Union (EMU), the European institutions also took part in the debate. In 2011, the European Commission began a public consultation where relevant stakeholders were asked to contribute to the debate of jointly guaranteed debt (Stability Bonds in the Commission's terminology). A year later, the Council contributed to the debate with a report that explored the different integration levels that a fiscal union could reach in the future. In the late stages of integration, the report considers common issuances of debt and a treasury office that manages a common budget for the EMU (Herman Van Rompuy 2012). The latest significant contribution was authored by five presidents of EU institutions, where they lay out their future vision for the EMU based on a minimal consensus that includes a common treasury office (Juncker et al. 2015).

If fiscal integration and jointly-guaranteed debt are the medicine, then what are the symptoms they address? These proposals largely stem from the experiences of the Eurozone crisis and its unhurried resolution. The institutional response to the challenges posed by the crisis led to significant but not substantial changes in the EMU. There was no significant treaty amendment and the solutions built up on previous institutions (Verdun 2015). Rather than a leap forward in integration, what institutions implemented is a reinforcement of the Maastricht system.

At the time, the political momentum for further integration was simply not there. For reasons that the present study will lay out, fiscal union and debt pooling are deeply controversial issues among Eurozone's member states. Therefore, any proposal of a deepening of the fiscal union must also consider the political context in the European Union (EU). The "uniqueness" of the EMU (Bordo et al. 2013) –sovereign states that decided to delegate monetary policy while retaining almost full control of fiscal policy– means that we cannot copy the fiscal systems of other federations and implement it in the EU. To this end, the study delves into the political considerations that challenge any type of fiscal integration in the continent.

Member states reluctance is the main obstacle in the road towards fiscal union. However, fiscal union is still part of the roadmap to closer European integration and the outcome of the crisis did not put an end to the debate. In June 2015, Germany's finance minister Sigmar Gabriel and France's finance minister Emmanuel Macron published a joint op-ed piece in several European newspapers, where they made a case for strengthening Europe's economic and fiscal union (The Guardian 2015). Common issuance of debt and a central fiscal capacity to stabilize the EMU are part of the proposed measures. They are also the main considerations of the present work.

While there is no lack of divergence and creativity in the different contributions, there something on which everybody agrees: the EMU should avoid another crisis like the sovereign debt crisis that threatened its very existence. It is the work of the present study to answer how a EMU capable of issuing jointly guaranteed debt (Eurobonds) and an EU Treasury that manages its revenue can avoid the repeat of a sovereign debt crisis and make the Eurozone more stable. Moreover, Part 7 features an institutional design with a EU Treasury and a joint issued debt, purposely thought to contribute to this goal.

Before the institutional design, the study presents a theoretical framework that supports the claim that a centralised treasury is a viable institution in the Eurozone (Part 2). After seeing the main challenges to build a treasury and mutualise debt in the Eurozone (adverse selection and moral hazard), the study will delve into Part 3, which demonstrates how the current Eurozone already has concerns of moral hazard. Then, Part 4 describes how the Eurozone's debt crisis revealed imperfections in the Maastricht

system, which led some economists to think that fiscal union was a solution to the crisis and a way to correct such imperfections. From there, the study will detail how common debt and a treasury would address some of these imperfections (Part 5) and how moral hazard and adverse selection influence the final design (Part 6). After presenting the design in Part 7, Part 8 drafts the conclusions of the present study.

Part 2. Theoretical framework of fiscal integration

The present work lays out an EU Treasury with Eurobonds to make the Euro area more stable to economic shocks. There are several theoretical frameworks on which economists base similar proposals for the EMU. The present study considers three important theoretical frameworks: fiscal federalism, OCA Theory and the principal-agent problem.

2.1. Fiscal Federalism

There is plenty of research that delves into the possibility of the European Union evolving to a fiscal union in a way that would make it more similar to a federal country (Bénassy-Quéré et al. 2016; Fuest and Peichl 2012; Allard et al. 2013). It is a political trend that constitutes an angle in the debate of the European Union's future, with some parties defending this option at the European Parliament. A Treasury managing jointly issued Eurobonds would undoubtedly be seen as a step towards federalisation of the European Union.

The present work focuses on the economic aspects of federalism. Thus, we go straight to the concept of fiscal federalism. As defined by Sorens (2008), fiscal federalism requires the following characteristics:

(a) Sub-central political entities that have autonomy in deciding economic policy in areas like taxation and spending
(b) The political entities that form the federation have budget constraints.
(c) There is a common market: free mobility of goods, capital and people.
(d) The system is institutionalised so the central government cannot tamper with it at its will.

To a large degree, the European Union aligns with this rules and already has some of the aspects of a federation. However, we cannot consider the EU a federation in its present form. In a research paper that compares the EMU with other forms of monetary and fiscal unions like the United States, Canada and Germany, Michael D.Bordo et al. (2013) highlight the "uniqueness" of the EMU because it is "the first monetary union where monetary policy is set at the central level, while fiscal policy is carried out at the sub-central levels". This feature, as we will see later, is very relevant to analyse the reasons behind the Eurozone crisis and its consequences.

2.2. OCA Theory

Another theoretical framework that highlights the convenience of a Treasury for the EMU is the theory of Optimum Currency Area (OCA). This set of theories aims at evaluating whether it makes sense or not for a set of countries to adopt a common currency. Of the criteria laid out for the well-functioning of a monetary area, the Eurozone is missing two important ones:

(a) **Labour Mobility (Mundell 1961):** One can say that labour mobility is guaranteed in the EMU by the freedom of movement for workers included in the Treaties. Hence, we can say that in the legal sense the EMU complies with the labour mobility criteria. In practice, though, there are many causes that hamper labour mobility (the most obvious one being the absence of a common language), but they are not the concern of the present study. The point is that labour mobility in the EU does not contribute much in terms of correcting asymmetric shocks of the economy (Wyplosz 2006).

(b) **Fiscal transfers (Kenen 1969):** Nowadays, fiscal transfers in the EU are small and do not address asymmetric shocks. The budget is too small and the goals of redistribution are others. Instead, in the treasury proposal that features this study, fiscal transfers would be significantly larger.

The European Union is not an optimum currency area. The designers of the Maastricht system left many of the recommendations of OCA theory aside (Mongelli 2008). In Part

3 we will lay out the characteristics of the Maastricht system and in Part 4 we will see its missing pieces and the role they played in the sovereign debt crisis.

2.3. Principal-agent problem

An EU Treasury with jointly guaranteed bonds would undoubtedly be seen as a step towards a more profound economic integration of the European Union. Closer ties mean that actions taken by one country have an effect in another. The principal-agent problem helps us make sense of why member states are prudent of integrating further. It helps explain why member states do not issue jointly guaranteed Eurobonds, even though they would bring stability to the euro. Since the present study envisions a Treasury that manages jointly guaranteed Eurobonds, the principal-agent problem is very relevant.

When countries form an economic agreement, there is often a principal-agent problem. The principal is an under-informed party in the agreement that tries to give incentives to another party to disclose information or to adopt a behaviour that is in line with its interests (Brousseau Glachant 2002). This information asymmetry is the principal-agent problem and can be applied to study fiscal arrangements and risk sharing in the Eurozone.

There are two types of principal-agent problems relevant to this study. We list them here with examples of their relevance in Greece's relationship with the Eurozone.

(a) **Adverse selection:** In a contract in which a party A has more information than the party B, the party with more information has little incentives to reveal is own private information to party with less information. This means that party B will seek that party A discloses its information advantage. But A can try to keep it undisclosed. Adverse selection is very typical in health insurance, where consumers might try to hide some of their health problems to get better insurance terms (Brousseau Glachant 2002). In the Eurozone, an example of adverse selection is found in the evidence reported that Greece massaged the deficit figures to enter the Eurozone prematurely.

(b) **Moral hazard:** In a contract in which a party A has more information than party B, the party with more information has incentives to exploit the party with less information. This happens because A does not bear with the full consequences of its actions and bears them jointly with B. In consequence, party B is affected

> negatively by the mishaps of party A. Then, B, the party with less information, will seek to minimize the risk of moral hazard by implementing oversight to correct this information asymmetry and avoid risks (Brousseau Glachant 2002). For example, moral hazard is found in the Eurozone when member states bail out others during the crisis. When Greece is bailed by other Eurozone states – meaning that their taxpayers bear the cost of Greece's fiscal problems– such action is conditional to applying austerity packages and implementing structural reforms to minimize moral hazard. In a scenario where a member state knew others will come to the rescue when risking default, its politicians would have no incentives to guard themselves from such risk. This is usually described with the term free-riding.

Some of the characteristics of fiscal federalism, like budget constraints, have their origins in issues of moral hazard. In the US, for example, there is also a no bailout rule to avoid such risk. Rather, most US states have strict fiscal rules that prevent them from running large deficits or needing bailouts from the federal government (Bordo et al. 2013). As the IMF puts it, a fiscal rule "imposes a long-lasting constraint on fiscal policy through numerical limits on budgetary aggregates". These fiscal rules "aim at correcting distorted incentives and containing pressures to overspend, in particular in good times, so as to ensure fiscal responsibility and debt sustainability**"** (Schaechter 2012). US states use this rules to prevent debt crisis, since they know that the federal government is unlikely to come to the rescue.

Mechanism to avoid moral hazard and adverse selection, like fiscal rules, must also be thought when thinking of further integration in the Eurozone. For example, if we introduce jointly issued debt in the Eurozone, this means that we need to design mechanisms to avoid some countries –those that will benefit most from debt mutualisation– to exploit the system at the cost of others. For this purpose, parallel to debt mutualisation and a treasury we need fiscal rules and better access to member state's fiscal information. How adverse selection and moral hazard impact our proposal for debt mutualisation is a topic addressed in Part 6. In the next part we detail how moral hazard is already built in the Maastricht system and Part 4 also briefly addresses the topic, since some of the solutions to the sovereign debt crisis also relate to moral hazard.

Part 3. Moral hazard in The Maastricht system

Monetary tensions in Europe have a long history. Even before the single currency, the European Monetary System (EMS) –which aimed at reducing exchange rate volatility and regulate the changes in currency parities– could not avoid volatility and was often disrupted by misalignments. In a study on economic integration, Francesco Paolo Mongelli (2008) assess the experiences of the EMS "Several lessons were learned from the two decades with the EMS. Experience showed that keeping separate currencies with fixed exchange rates among them and full capital mobility leads to tensions: it is unsustainable if monetary authorities intend to pursue different goals and inflation rates still differ." According to Mongelli, the creation of the single currency was thought as a solution to this problem.

Overall, the single currency lead to closer economic ties. This means that more risk was being pooled across the EMU, which leads to moral hazard concerns. The founding fathers of the euro were aware of this. Many clauses in the European Treaties were included to address the moral hazard concerns of countries that by adopting a single currency were increasing their interdependencies and some entail fiscal rules. They are the following:

(a) **European Central Bank independence from governments (Article 130 of the TFEU):** Governments might have the tendency to monetize their debts through the central banks. That is a reason why, in monetary policy, central bank independence of any government is a well established principle. The Eurozone also follows this principle.

(b) **No-bailout clause (Article 125 of the TFEU):** Since the Eurozone increased the interdependence of European economies, a shock affecting one can affect them all. Countries might then feel compelled to bail out the troubled Members State and increase the trust of the whole Eurozone. Fearing that, some countries pushed for a clause that stated that the EU and other Member States "shall not be liable for or assume the commitments" of governments and other

administrations. It was informally known as the "no-bailout clause" and it remains a controversial issue whether the financial assistance provided to Greece, Ireland and Portugal is or is not compatible with this clause of the Treaty.

(c) **The "golden ratios" entry criteria (Article 140 of the TFUE):** By these fiscal rules, entry to the EMU is subject to setting a limit on the deficit (3% of GDP) and debt (60% of GDP). Therefore, membership is subject to proven fiscal discipline.

(d) **"Member States shall avoid excessive government deficits." (Article 126 of the TFUE):** Fearing the possibility that fiscal policy might be used irresponsibly by some states and that this situation might endanger the integrity of the Eurozone – again, the fear of bailouts justifies this clause– all states adopting the single currency committed to keeping the deficit in check.

The last article was further developed in secondary legislation, in the Stability and Growth Pact (SGP). Germany –a country that accepted the euro fuelled by the political moment and considered a giving away its strong currency a big concession– was very concerned with the moral hazard issues of monetary integration. To this end they created a set of fiscal rules that, as noted by a ECB report on the SGP (Morris et al. 2006), were created to address moral hazard concerns in the EMU. The SGP was created to avoid situation in which a country would have to be liable for the consequences of asymmetric shocks or bad fiscal policies in other countries.

Therefore, the SGP can be understood as additional insurance against free-riding on the deficit within the Eurozone (Köhler and König 2012). It enshrines the same fiscal limits for the accession to the EMU (3% GDP to deficit ratio and 60% GDP to debt ratio) as permanent rooftops for Member States. The SGP includes an Excessive Deficit Procedure that is applied when the criteria are not followed by member states, which could even lead to sanctions (European Commission).

Part 4. The missing pieces of the Maastricht system and their role in the Eurocrisis

The Maastricht Treaty had undoubtedly many "hits". In the crisis, we realized it also had important missing pieces. As the ECB puts it in a report: "The smooth functioning of EMU requires that national governments ensure the sustainability of their own public finances, the competitiveness of their national economies and the stability of their financial systems. Failure to meet one or more of these conditions over a sustained period of time reduces the net benefits of EMU and poses the risk of adverse cross-country spillovers" (ECB 2011). Many economists dug deeply in the Maastricht system to find even more imperfections before the crisis made them more evident (Wyploz 2006; Ahearne and Pisani-Ferry 2006; De Grauwe 2011). Bearing in mind this criticisms of the Maastricht system, in this part we explore the Eurozone crisis, how it spilled over from country to country and what lessons can we learn for our EU Treasury proposal.

The advantages of a single currency are many. Among them we count the disappearance of fluctuation risks, lower transaction costs and a greater price stability (Mulhearn and Vane 2008). Another advantage for many states was that the single currency brought lower interest rates when issuing sovereign bonds. In fact, the borrowing costs of many member states tended to converge with the low borrowing costs of those states considered trustworthy by financial markets (see Figure 2) (Ahearne and Pisani-Ferry 2006). This was a great advantage for those countries that, before joining the euro, had significantly higher borrowing costs. Since the Eurozone crisis, as we will see later, borrowing costs started to diverge again.

While there are certainly advantages, the euro is not without costs. The most relevant to our work is the fact that by delegating monetary policy to the European Central Bank (ECB), member states lost absolute control over the currency and surrendered an important tool to deal with asymmetric shocks: competitive devaluation. While unilateral devaluation of a currency was not permitted under the EMS, countries under a severe crisis would use it as a measure of last resort. Now Eurozone members rely on fiscal policy to tackle economic shocks (Lane 2012). Fiscal adjustments, however arise other problems of their own. Fiscal policy is also tainted by the political process, since

budgets and taxation are governmental policy. Governments might tend to use fiscal policy to their advantage and be unwilling to exert necessary fiscal discipline for political reasons (Scott 2012). This is precisely the sort of moral hazard situation for which the SGP was created, as featured in Part 3.

Another relevant setback of the euro is that the ECB finds it difficult to design a monetary policy that is suitable for individual member states. The ECB sets its inflation target for the whole euro area, but important divergences in inflation in member states persist (Figure 1). That is why it is said that the ECB follows a "one size fits all" monetary policy. But how can the ECB's unique inflation target be adequate for a Eurozone with current account imbalances or suffering from an asymmetric shock? This anticipates a problem for the ECB. In an asymmetric shock the "one size fits all" monetary policy is counterproductive (The Economist 2009). We examine the role of imbalances in the Eurozone crisis in subsection 4.1.

There is yet another setback that is very directly related to the sovereign debt crisis of 2010-2012. In the EMU, member states issue debt in a currency over which they have no control (De Grauwe 2011). This characteristic removes the ultimate guarantee to bondholders that their money is going to be paid back: the lender of last resort function. The reason why bondholders do not panic during an insolvency crisis in sovereign countries is because the central bank is always there to guarantee that they will be paid back. In the EMU, instead, investors are likely to sell the bonds of the country affected by a solvency crisis and simply purchase those bonds of member states with sound solvency, which triggers a spiral effect that worsens the crisis of insolvent countries (De Grauwe 2011). Initially, the ECB was not expected to play the role of lender of last resort, as this gives rise to moral hazard problems. Such an action can drive countries to issue too much debt. Since all member states in the Eurozone participate in the ECB's balance sheet, the ECB acting as a lender of last resort can commit future taxpayers bear the risk of others (De Grauwe 2013). Nonetheless, as the following sections will show, the ECB had to undertake this role to effectively end the sovereign debt crisis.

The next subsections (4.1 and 4.2) deal with how this missing pieces of the Maastricht institutional design played a role in making it difficult for the Eurozone to solve the debt crisis. The experiences and lessons of the sovereign debt crisis are relevant because they

help illustrate why the crisis magnified and why the Eurozone struggled to find solutions; all of which helps us lay out an institutional design that can better tackle the coming of a similar crisis.

4.1. Growing imbalances and road to the crisis

Alan Ahearne and Jean Pisani-Ferry (2006) argued that European institutions should cease to focus only in fiscal convergence (the SGP), and instead look closer at growing imbalances in other areas. The economists pointed at the persistent differences in inflation rates, which reflect different real exchange rates (Figure 1). This is evidence of changes in the evolution of competitiveness. As a consequence, some countries ended up running large current account deficits (imported goods and services surpass exported goods and services), while other countries persistently ran current account surpluses.

Before the euro, national central banks would accommodate their inflation target to the needs of their own country. But as stated before, the ECB is said to have a "one size fits all" monetary policy, meaning that a single central bank (with a single inflation target) has to accommodate the needs of all Eurozone members. But as the crisis made the striking imbalances more evident, some claim that the ECB has a "one size fits none" monetary policy (The Economist 2009). While northern countries seek to keep a tight low-inflation monetary policy, the countries affected by the crisis would benefit from a slight increase in inflation. Hence, the ECB's difficulty to accommodate its inflation targets to the needs of all member states facilitates the growth of imbalances.

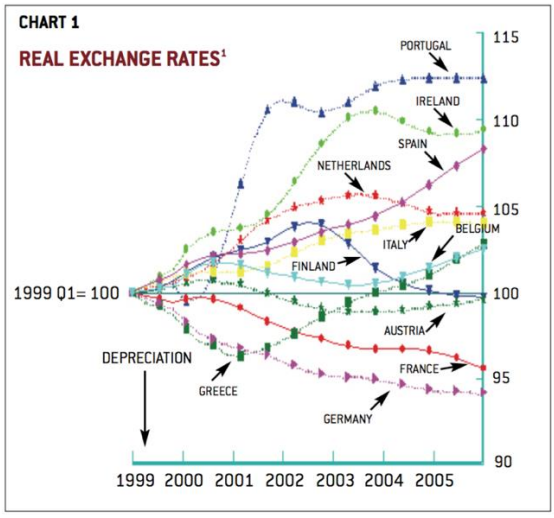

Figure 1: Evolution of the real exchange rates of EMU members (Ahearne and Pisani-Ferry 2006)

However, the most intense period of growing imbalances took place before the crisis hit the Eurozone. In his ex-post account of the sovereign debt crisis, Philip R. Lane (2012) explains that current account balances diverge during the 2003-2007 boom. The periphery (Portugal, Greece or Spain) ran important current account deficits, while Germany and other core countries ran big surpluses. These imbalances "accelerated income convergence by reallocating resources from capital-abundant high-income countries to capital-scale low-income countries", something which is not necessarily a detrimental effect of the monetary union. But since this capital inflow would fuel investment with little to none effect on productivity growth, the imbalances posed a threat to the EMU. Furthermore, the inflow masked the necessity of adjustments to external shocks such as increasing competition within the euro area or the BRICS economies.

In this context of looming economic difficulties for the Eurozone's periphery, the collapse of Lehman Brothers caused a ripple effect that upset European banks. The global financial shock had asymmetric effects on the Eurozone. While northern countries suffered a bump and quickly recovered, countries like Ireland, Spain, Italy, Portugal and Greece struggled. Greece suffered from its own catastrophic version of the crisis when the new government conducted in 2009 a staggering disclosure: upwardly revised deficit figures that drove the country to insolvency. Since 2010, despite the no-bailout clause in the Maastricht Treaty, different versions of bailouts and financial assistance were designed for these countries which suddenly risked suffering a default.

In the case of Ireland and Spain, deficits skyrocketed and debts piled up when their banks were bailed out by governments due to the decline in the construction sector. The close links between national governments and banks leads the first to bail out the latter. It is an effect known as "doom loop": Banks tend to buy sovereign bonds of their own country, which links their stability to that of their government. An increase in bond yields affects the liquidity of banks. As a consequence, banks cut on lending, which has a depressive effect on the economy. Tax revenue is affected, which worsens the government's solvency (Baldwin et al. 2015). This effect is what led governments like Greece, Ireland and Spain to bailout banks during a crisis.

In Spain, tax revenues were heavily linked to the construction sector. The burst of the construction bubble led the country to run large deficits. The dire fiscal situation, together with the contagion effect from the Greek crisis (see 4.2.), put Spain on the path to insolvency. As Spain's borrowing costs rose, this was being made evident. As with other countries affected by the crisis, financial markets were asking very high interest rates for 10-year government bonds. It was an indicator that these countries were risking default.

The outbreak of the crisis ended the convergence of 10-year government bond yields, perhaps one of the most relevant advantages of the single currency –as explained in Part 4– because it brought low borrowing costs for member states. We can observe this effect in the evolution of the interest rates for 10-year government bonds depicted in Figure 2. Since 1992 to 2002, during the run-up to the single currency, there is a tendency towards convergence. For the most part of the 2000s, interest rates remained at very similar levels. In other words, financial markets did not perceive differences in the risk and creditworthiness of member states. The yield spread depicted since 2008 is a good indicator of how financial markets perceived the risks arisen by the Eurozone crisis. As a result, interest rates of states most affected by the crisis skyrocketed during the period 2008-2012. The parameters used by financial markets to assess a country's creditworthiness –risk premia– reflected their critical situation in areas like fiscal healthiness, growth prospects, debt levels and competitiveness.

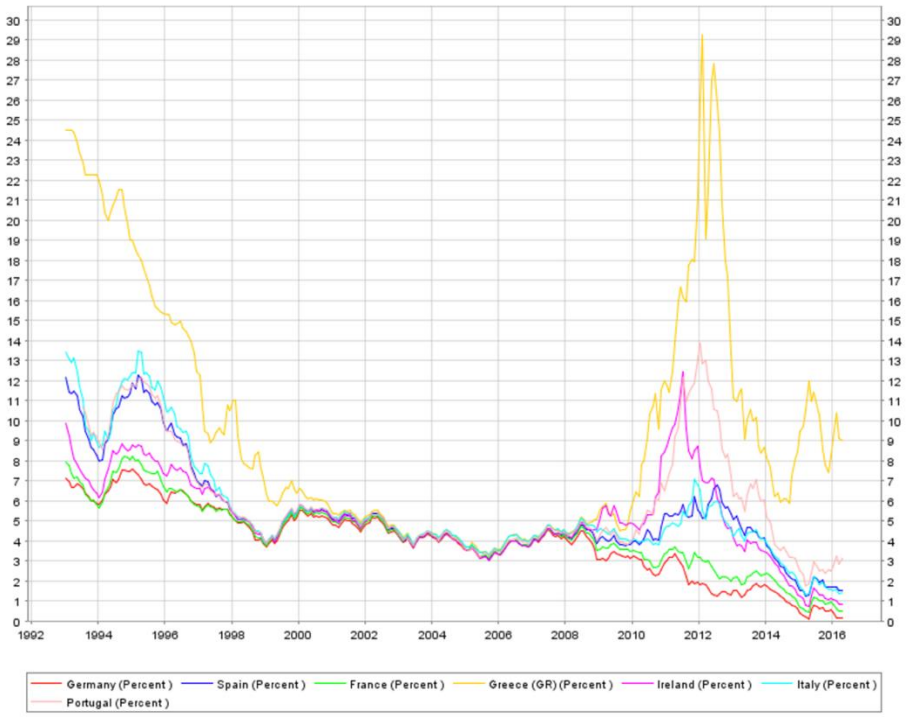

Figure 2: Evolution of the interest rates of 10-year government bonds (ECB)

4.2. Contagion and response to the Eurocrisis

Risk premia increase during the sovereign debt crisis was not only related to the particular economic hardships of member states, but also because there was a contagion effect all across the EMU. When investors attributed risk to a state's sovereign bonds, neighbouring countries were also affected by the variations of such risk. Vice-president of the ECB Vitor Constâncio, addresses contagion in a report in which he recollects how Moody's downgrade of Portuguese sovereign bonds was justified partly by the situation in Greece. Later on, Greece's default risk and Portugal's downgrade played a role in investor's decision to sell sovereign debt bonds, which lead to the increase of their yields (Constâncio 2012).

An unhurried institutional response to the crisis played a role in increasing contagion of Greece's default. As Christian Kopff (2011) puts it, "The inability of policymakers to re-establish financial stability in the euro area has resulted in a collective punishment by markets". Another factor that led to the increase of contagion, as Philip R.Lane (2012) notes, is the involvement of the private sector for the second Greek bailout package, which required investors to take losses. According to Lane, private sector losses in

Greece bonds "contributed to the sharp widening of the spreads on Spanish and Italian debt".

When risk premia of Spain and Italy increased to unsustainable levels, the ECB intervened to put and end to the sovereign debt crisis. This relates to one of the setbacks of the euro, as described in Part 4: Countries issue debt in a currency over which they have no control and the ECB's role as a lender of last resort is subject to collective decision-making. In 2012, Mario Draghi's announcement to do "whatever it takes" to save the euro hinted at a future bond buying programme by the ECB and proved very effective to end the debt crisis. The announcement triggered a turning point to borrowing costs of southern countries. With the ECB's Outright Monetary Transactions programme, a bond-buying plan for certain countries facing the sovereign debt crisis, the EMU's central bank was acting as the lender of last resort of countries within ESM programmes (Saka et al. 2015). We can detect its effects in Figure 2, seeing how bond yields evolved since 2012, on a downward trajectory. But while the bond-buying programme has brought financial stability, it has not brought convergence like before the crisis, which means that financial markets still perceive risk differences by member states.

To exemplify the convenience of a lender of last resort during a crisis, Paul De Grauwe compares the different effects that the debt crisis inflicted in Spain and the UK. During the crisis both countries had similar levels of debt and ran similar deficit figures, but the UK never suffered a solvency crisis because the Bank of England, as a lender of last resort, can provide the necessary liquidity and guarantee that their debt will be repaid (De Grauwe 2011).

Besides the ECB's intervention, the fear of the contagion effect and the need to control growing debts drove some of the institutional solutions for the Eurocrisis. The set of policies undertaken by European policymakers are:

(a) **The European Stability Mechanism (ESM):** The ESM was preceded by the European Financial Stability Facility (EFSF), a mechanism created in the wake of the Greek crisis to provide financial assistance to countries risking default. In 2012 the ESM substituted the EFSF by means of an intergovernmental treaty. It

improved the lending capacity and made it a permanent institution. Both the EFSF and the ESM aim at cutting the contagion of the crisis from a country to another by providing liquidity to the risky country and thus avoiding spillover effects. To address moral hazard concerns and ensure debt sustainability in the future, there is an important conditionality when seeking funds of the ESM: the signing of a Memorandum of Understanding that compels countries to apply austerity packages and structural reforms (Kapp 2012).

(b) **The ECB's cut of interest rates:** Before acting as a lender of last resort, the ECB mirrored the policies of the Federal Reserve and the Bank of England, by gradually reducing interest rates to zero to inject liquidity to the economy (Lane 2012).

(c) **Treaty on Stability, Coordination and Governance in the Economic and Monetary Union:** Commonly known as Fiscal Compact, it is an intergovernmental treaty that introduces a fiscal rule in the deficit, which must be close to zero over the cycle for member states with outstanding debt. Instead, member states with low debt can enjoy a more relaxed deficit target. The thresholds to define excessive debt and deficit are the same as in the SGP (3% GDP to deficit ratio and 60% GDP to debt ratio). It is aims at reinforcing the commitments of the SGP. An important novelty compared to the SGP is that it compels countries to include budgetary rules in national legislation (European Commission).

(d) **Six-pack and two-pack:** This sets of regulations and directives strengthen the SGP and reinforce economic coordination among member states. The six-pack mainly reinforces the Excessive Deficit Procedure –the method by which the SGP corrects excessive deficit or debt– and introduces macroeconomic surveillance under the Macroeconomic Imbalances Procedure (European Commission). In this measure, "a wide range of risk indicators will be tracked, including credit growth, house price indices, and external imbalances" (Lane 2012). It is a more thorough imbalances surveillance plan, similar to what Ahearne and Jean Pisani-Ferry argued for in 2006. The two-pack regulations build on the European Semester –a policy cycle through which the EU

institutions try to influence national polices– to monitor national budgets' compliance to fiscal rules. In the European Semester, member states submit budget drafts to the European Commission, which issues an opinion on fiscal rules compliance. Furthermore, states still retain full sovereignty when passing budget laws (European Commission).

(e) **Banking Union:** In the beginning, the sovereign debt crisis was a banking crisis. The "doom loop", which is detailed in subsection 4.1 –the interdependence between national banking systems and national finances– can turn a banking crisis into a fiscal crisis. It happened in Greece, Ireland and Spain, whose finances worsened after assuming the losses of national banks (Lane 2012). The Banking Union seeks to break this "doom loop" with its three arms. The first, the Single Resolution Mechanism, allows for failing banks to be terminated with funds from the private sector. Second, the Single Supervisory Mechanism tries to prevent bank failure by delegating the surveillance of banks to the ECB. Third, the European Deposit Insurance Scheme guarantees deposits under 100.000 if banks become insolvent (European Commission).

To sum up, the EU's response to the crisis consisted of three main strategies. First, to cut the spread of the crisis across Member States with firewalls (the EFSF and the ESM). Second, to strengthen budgetary rules and economic coordination through new law (Six pack, two pack and Fiscal Compact). Third, the ECB hinted at becoming the lender of last resort of some countries by staring a controversial programme to purchase sovereign bonds under certain conditions in the secondary market. These responses have been sufficient to calm financial markets, but their effectiveness on the long run is unclear.

The post-crisis legacy is also challenging. Some countries still have large debts and run deficits, which forces them to continue applying structural reforms and austerity (Lane 2012). This state of indebtedness is even more worrying if we consider that growth is sluggish, the Eurozone is currently battling deflation, large current account imbalances persist, investment remains low, and unemployment high in southern countries (European Economic Forecast 2016). On top of that, it is also important to note that the Eurozone crisis has had important social consequences. This has led to unprecedented

citizen dissatisfaction with European institutions, mostly among those member states that have been hardest hit by the crisis (Frieden 2015).

4.3. The conflict between automatic stabilizers and fiscal rules

Evidently, both the global financial crisis and the sovereign debt crisis in Europe brought about many distressing consequences to the real economy and citizens. Besides banks' credit shortage due to the global financial crisis –which already affected the private sector– the austerity and fiscal discipline derived from the economic shock and from European decision-making, also affected member states' spending capacity, which affected automatic stabilizers. This component of modern economies is "a feature of the economy that reduces its sensitivity to shocks, such as sharp increases or decreases in spending" (Baumol and Blinder 2007). Therefore, with automatic stabilizers the hardships of a sharp decline in GDP are mitigated by government spending. It is a set of taxes (like the income tax) or welfare policies (like unemployment) that mitigate the shock to population by increasing budget expenditures.

In the EMU, the SGP compels countries to keep their deficits in check, although some leeway is permitted in a crisis, precisely to preserve the effects of automatic stabilizers. During the Eurozone crisis, though, many southern states found themselves in the conflicting ends between spending increases due to automatic stabilizers and the constraining effects of fiscal rules. The solvency crisis led member states to cut spending to service the debt in the midst of a recession or a sluggish recovery (De Grauwe 2011) and those involved in bailouts had to implement austerity packages and structural reforms, while growth was sluggish or negative. This leaves automatic stabilizers with no room to mitigate the social consequences of the crisis (Lane 2012).

Part 5. What a Treasury with Eurobonds could address

At this point, we turn the page on the Eurozone crisis and delve into the purpose of this study, how a Treasury with joint borrowing capacity could make the EMU more resilient to a sovereign debt crisis like the one experienced six years ago. We have determined that the EMU is vulnerable to asymmetric shocks, that the absence of a clear lender of last resort feeds the distrust of financial markets because without this feature sovereign bonds are ultimately not safe assets, that imbalances persist and are difficult

to correct and that indebtedness poses a problem for Europe's future. The diagnosis of the reasons that lead to the crisis its management and solutions, lead many economists to think about the appropriateness of common debt issuing and fiscal transfers (Bibow 2015; Enderlein et al. 2013; Pisany-Ferry et al. 2013; Wolff 2012), a topic also addressed by the European institutions (European Commission 2011; Van Rompuy 2012). In the next part we detail how many of the points in question could be addressed by an EU Treasury with debt mutualisation and fiscal transfers.

5.1. EU Treasury and the ECB: the lender of last resort function

Besides keeping inflation in check, central banks have another important function: being the lenders of last resort of governments on the path to default. As explained in Part 4, the reason why Spain had solvency crisis, but not the UK, is that the Bank of England can provide the necessary liquidity to guarantee debt repayment. Instead, the ECB is wary of acting as a lender of last resort, because purchasing bonds directly to governments is also a mechanism to finance their deficit, something that brings about moral hazard –it can encourage governments to issue too much debt. All countries participate in the ECB's balance sheets and thus, the liquidity provided by the central bank comes from all member states. The risk of default is shared by taxpayers all across Europe (De Grauwe 2011).

The EU Treasury proposed would be a good partner to the ECB when it comes to the lender of last resort function. The central bank would now be able to comfortably guarantee the liquidity of the centralised treasury, rather than supporting the treasuries of certain member states. Issues of moral hazard, then, are managed in the transfer scheme, the fiscal rules and the oversight mechanism built into the system. The ECB coupled with the EU Treasury would make the euro area more resilient to solvency crisis derived from shocks, since the lender of last resort function is guaranteed and investors would perceive European bonds as assets that are ultimately safe.

5.2. Fiscal transfers to mitigate the effects of asymmetric shocks

Fiscal transfers are considered to be a necessary requirement of an optimum currency area, since they help mitigate the effects of an asymmetric shock (Kenen 1969). The EMU, as we know it today, doesn't have fiscal transfers sufficiently big to provide this

effect –its centralised budget is too small and its redistributive goals are unrelated to asymmetric shocks. True federal systems, instead, have fiscal transfers built into their systems to mitigate shocks. This is way many proposals for a fiscal union in the EU delve into how fiscal transfers could be managed (Enderlein et al. 2013; Pisany-Ferry et al. 2013; Wolff 2012).

To better comprehend how a full-fledged federation deals with asymmetric shocks, we turn to Paul Krugman, who extensively compared the EMU with the U.S. to render some insight on the Eurozone crisis. In an article called *Revenge of the optimum currency area* (2012) Krugman compares similar asymmetric shocks that took place in Spain and in Florida, each subsets of their respective currency areas. Both states ran into turmoil due to the bust of a housing bubble. Spain's troubled banks were bailed out by the national government while national finances deteriorated, the economy depressed and unemployment strikingly rose. To fix its current account deficit Spain is undergoing a tough process of internal devaluation. As explained in Part 4, in 2012 the country suffered a sovereign crisis that threatened the whole EMU.

Instead, the housing bust in Florida is a much less scary story. Unemployment in Florida rose, but never skyrocketed because much of the unemployed people left to find a job at another state. The labour mobility criteria of OCA theories helped Florida export the exceeding workers and therefore the state was able to keep unemployment under check. Furthermore, the US has a federal fiscal transfer system, which also helped Florida. "If Florida suffers an asymmetric adverse shock, it will receive an automatic compensating transfer from the rest of the country: it pays less into the national budget, but this has no impact on the benefits it receives" (Krugman 2012).

By comparing Spain and Florida, Krugman indicates that an EMU with fiscal transfers would better tackle asymmetric shocks. In our EU Treasury proposal, the fiscal transfer scheme will consist of credits issued by the EU Treasury at favourable interest rates for member states. The credits will be funded with the issuing of jointly guaranteed Eurobonds and will be allocated with macroeconomic criteria that will be detailed further on.

5.3. Indebtedness and room for automatic stabilizers

A big GDP to debt ratio is a heavy burden to bear in a context of slow growth and economic uncertainty (Lane 2012). The joint issue of bonds, which would increase borrowing costs for core member states and lower them for those at the periphery, could help palliate the burden of high debt to periphery member states. They are the ones suffering the burden of high debt and the low interest rates delivered by the Eurobonds would help them service the debt and probably avoid haircuts.

Similarly, the better fiscal position that would result from Eurobonds, could allow periphery countries to have the necessary breathing room so that automatic stabilizers could function more properly and mitigate the social consequences of a crisis. It would probably help to alleviate the conflict between automatic stabilizers and fiscal rules during recessions.

5.4. Assistance in promoting structural reforms

Nowadays, the persistent internal imbalances are considered a threat to the European economy. As stated in Part 4, to tackle imbalances, the European Union launched a Macroeconomic Imbalances Procedure, by which it monitors indicators and recommends polices that should improve the resilience of member states to economic shocks. Nevertheless, the final decision is still largely national and it remains unclear that member states are effective in managing this risk factors (Lane 2012).

Besides the reforms fuelled by the Macroeconomic Imbalances Procedure, the EU also promotes structural reforms in areas like environment, competitiveness, energy, employment, education, labour market, etc. Many reforms are also part of the Europe 2020 programme, in which the EU sets specific targets to modernize the economies of member states and better prepare them for the future (European Commission).

Both types of structural reforms could be supported by EU Treasury funding. More importantly, an EU Treasury could financially support serious efforts by member states to implement painful and politically challenging structural reforms (Wolff 2012). By providing additional funding through the transfer scheme, the EU would be more

effective in promoting the sort of policies featured at the Macroeconomic Imbalances Procedure.

In the design laid out in Part 7, the member state should agree to the structural reform in return for funding by means of a bilateral agreement with the Eurogroup. After presenting the draft law to the Eurogroup, the institution would be able to issue recommendations to the proposed draft. The intensity of support given to the member state (in other terms, the amount of funding) will depend on if it accepts all, some or none of the recommendations of the Eurogroup. These increased legislative capacity of the Eurgroup must be accompanied with democratic accountability that we will detail in Part 7.

5.5. Investment with a Euro-wide perspective

In 2013, a report by the European Investment Bank threw cold water on the prospects of infrastructure investment in the near future. A reason, among others, is public budgets constrain as a result of the crisis. There is, therefore, a decoupling between the needs and the resources: "From now until 2020, €500 billion is estimated to be needed for the implementation of the TransEuropean Transport Network (TEN-T) programme. In the energy sector, public and private entities in the Member States will need to spend around €400 billion on distribution networks and smart grids, another €200 billion on transmission networks and storage as well as €500 billion to upgrade and build new generation capacity between now and 2020" (Inderst 2013).

It is expected that any prospective budgetary central capacity in the euro area would be able to set aside a certain amount of funding for investment in infrastructure needs. Despite that this is not its main functionality, the EU Treasury proposed could contribute to address this investment gap and provide the EU-wide perspective that the TEN-T networks and some energy infrastructure projects need. It could be especially helpful in those projects where national coordination of member states becomes a challenge.

Part 6. Notes on political feasibility: Eurobonds, moral hazard and adverse selection

Before presenting an institutional design for the Eurozone that is resilient to asymmetric shocks and their consequences, we need to consider the political challenges of common debt issuance and how adverse selection and moral hazard will impact the proposed design.

There is an abundance of proposals for some sort of jointly guaranteed debt financing in the Eurozone like The Blue Bond Proposal (Delpla and Wizsäcker 2010), ESBies (Euro-nomics group 2011) or Redemption Bonds (Bofinger et al. 2011). All of them imply different levels of risk sharing by member states. Regardless of the level of commitment, all must deal with principal-agent problems and the risks of falling into moral hazard or adverse selection concerns.

Before we jump into how the principal-agent problem affects debt mutualisation, first, I want to briefly detail why the proposed Treasury, unlike others, does not include any taxation or welfare spending at the European level.

6.1. Why taxation and a common unemployment scheme are not part of the EU Treasury

Some ideas that aim towards a closer fiscal union are disregarded in our institutional design, because its level of controversy among states is judged to be too high. For example, there is no common unemployment benefit scheme, as some suggest (Davis et al. 2015; Allard 2013) or any taxation at the European level (Cacheux 2010). While both of these policies are implementable, they currently raise too much opposition to be deemed feasible any time soon.

The reasons why a common unemployment scheme is impracticable stem from the great disparities between welfare systems within the EU. Parameters such as the amount workers pay into the system, the conditions for obtaining benefits and their size and duration should be harmonised across the continent (Vetter 2013). There is little to none political will for countries with generous benefits to lower them and for countries with

less aid to raise them. Welfare models differ from country to country and the political and economic costs of reforming them is deemed to be too high.

Stiff resistance by Member States is also the reason why a European tax is not considered in the present work. Once more, differences over the way countries organize their welfare states, as well as the fact that redistributive effects would benefit few countries, makes that passing such reform in the Council –where taxation issues require unanimity– is thought to be politically unfeasible in the current context (Bargain et al**.** 2013).

6.2. The implications of Eurobonds

Eurobonds, which we have determined to be a necessary feature of this Treasury proposal raise similar levels of political controversy. Member states that tend to have low inflation, high competitiveness and current balance surplus –we will refer to them as core member states, as they largely coincide with those located at the core of the EU– have very different attitudes towards jointly guaranteed bonds to member states at the periphery, those generally with high inflation, low competitiveness and current account deficits. That is because, at present, investors attribute different levels of risk premias to each individual state, which translates into different interest rates (figure 2 at Part 4). Instead, jointly guaranteed bonds entail a single interest rate for all member states; its value would fall in between the highest interest rate and the lowest interest rate of individual countries. In consequence, core states would see their borrowing costs increased and southern states would see their borrowing costs reduced (De Grauwe 2011). No wonder why it is core countries the ones that more vehemently oppose Eurobonds.

If we are asking core countries to increase their borrowing costs at the benefit of countries at the periphery, that entails, in effect, a redistribution of capital from core to periphery. This is not trivial. In fact, it is a big request to core countries. The general financial stability of the Eurozone is also in the in their interest, but such an effort needs more guarantees that other member states will not abuse their goodwill.

At this point, we need to return to the principal-agent problem, which we already discussed in Part 2. The institutional arrangement proposed in this study would require Treaty change, which in the EU can only mean lengthy and tense negotiations. The principal-agent problem –concerns of moral hazard and adverse selection– would drive the discussions. In consequence, moral hazard and adverse selection determine some features of the design proposed in Part 7.

6.2. Adverse selection in the EU Treasury proposal

Adverse selection occurs when a party in an agreement has little incentives to disclose an informational advantage to the other party. To better understand how adverse selection plays a role in Eurobonds, we can compare them to an insurance mechanism.

Adverse selection is a typical problem in health insurance, where the provider is at a disadvantage because it can not correctly price insurance if it does not know the state of its costumers' health. For this, some insurance companies require a health check up before signing in a costumer. If we understand Eurobonds as an insurance mechanism against asymmetric shocks, some countries will logically require assurances that a country is not prone to such shocks.

To address adverse selection in the present proposal we make three considerations:

(a) *A Treaty change that creates jointly guaranteed debt is conditional to complying present compromises like the Macroeconomic Imbalances Procedure, the Stability and Growth Pact and the Fiscal Compact.*

If countries were to comply with these three aspects of economic governance detailed in Parts 3 and 4, they would be in a better position to agree on a treaty reform to implement Eurobonds. By proving that they are capable of honouring the current fiscal governance and reducing imbalances, periphery states would disclose relevant information to northern countries. Indeed, they would be sending the message that they are able to achieve policy reform to make their country more resilient to asymmetric shocks and be less dependent on the transfer scheme of the EU Treasury.

(b) *Transfer of oversight powers*

To further correct the information asymmetry, member states should agree on transferring oversight powers of fiscal data to the European Commission. The Greek crisis of 2009 revealed that the country's government had misreported deficit figures since joining the euro. Considering the profound ripple effects of the Greek crisis, some countries might believe it is not advisable to integrate with member states that massage deficit and debt figures. To this end, the transfer of oversight power seeks to avoid a repeat of the crisis by allowing the EMU institutions better access to member states' fiscal data.

(c) The more the merrier: avoid opt-outs.

It is important that negotiations implicate the maximum number of countries and make opt-outs very difficult. It is a known adverse selection problem that if some countries who must bear the greater cost leave negotiations, the average borrowing cost of the future system would also rise. As a consequence, other countries could deem it too costly and also leave the system, triggering a spiral reaction. Negotiations would collapse. This is the main challenge to carrying out successful negotiations towards joint debt in the EMU.

6.3. Moral hazard in the EU Treasury proposal

Moral hazard occurs when the party with more information has incentives to act on its own benefit, while the risk of such actions is shared with the other party. This problem is usually solved with mechanisms that compel the party with more information to bear the risks of its own actions. In the EMU's current design, we find moral hazard problems when countries bail out a member state without market access and close to default or when the ECB buys the bonds of a particular country also risking default, thus lowering its borrowing costs. In these situations, without the proper compensating mechanisms, countries at risk would not change the policies that led them to troubled waters. The SGP or austerity packages as conditions to bailouts are the compensating mechanisms that compel them to guard themselves from risk.

To address moral hazard in the present proposal we make four considerations:

(a) Eurobonds come under the conditionality of balanced fiscal policies.

The Fiscal Compact –currently an international treaty– could be made into European law and all Eurozone member states should abide to it. To give more room to automatic stabilizers, its fiscal rules could be made more flexible by turning them into a structural budget balance rule (Schaechter 2012). In this rule, the structural budget is corrected over the economic cycle so that it does not constrain spending during recessions. Similarly, to the coupon system of interest

rates proposed by De Grauwe & Moesen (2009), the EU Treasury access to credit will suffer from a premium –an increase in interest rates– for those countries that disregard fiscal rules. Since we build up our fiscal governance system to the one already in place, this "carrot and stick" system seeks to better enforce compliance of the SGP and the Fiscal Compact than now.

(b) The transfer scheme managed by the Treasury should be explicit, tend to balance the budget and should avoid permanent transfers.

As exemplified by Krugman's comparison between Spain and Florida's crisis, in full-fledged federations like the US, fiscal transfers can be implicit. This is because in federal countries a great deal of automatic stabilizers –like unemployment– are a federal government competence. Consequently, fiscal transfers that mitigate asymmetric shocks are not immediately evident and are allocated automatically. But, as previously stated, it is unlikely that member states will be ready to transfer welfare or taxing competences to the EU any time soon. This is why the transfer scheme we purpose will be explicit, because what every country gets and contributes to the system will be public and subject of debate.

There is another reason to make the transfer explicit: moral hazard. The best way to determine whether a country is benefiting from the system is to keep good track of what it gets and receives. Moreover, to even further address moral hazard concerns, what countries get and what they return should always tend to zero on the long run. Another moral hazard concern of the transfer scheme built in the EU Treasury is the fact that transfers can not become permanent. If it is the same member states the ones benefiting from the funding, the system would create frictions among member states. These two conditions are also featured in many proposals of fiscal capacities for the euro (Enderlein et al. 2013; Pisany-Ferry et al. 2013; Wolff 2012).

To prevent that fiscal transfers become permanent the system is built to support structural reforms that align with the general European context and mitigate imbalances between core and periphery states.

(c) *If a member state enters a spiralling deficit and its finances become unsustainable, the EU Treasury would guarantee debt repayment and aid the country in an orderly default. The collectivisation of losses will come together with a binding Memorandum of Understanding with policy reforms that guarantee the future fiscal sustainability of the member state.*

If an asymmetric shock triggers a severe debt crisis in a member state –a debt it would have in relation to the EU Treasury, instead of owing it to financial markets– the repayment of private investor bonds would be guaranteed by the collateral of all member states. If the EU Treasury, somehow, were to find itself short of liquidity, the ECB could jump in and act as a lender of last resort. However, the member state that is unable to service its debt with the EU Treasury would be subject to an emergency procedure of orderly default. This is inspired in a proposal by Gros and Mayer (2010).

The orderly default, however, would probably involve a penalty in the EU Treasury's bond yields, as financial markets would see it as a destabilizing factor. This penalty would translate to the interest rates of all member states participating in the treasury. A state's default would not risk the disintegration of the system, but would entail very significant costs for the other members. Again, we find moral hazard concerns in the system. Consequently, the procedure would signify a loss of economic sovereignty for the defaulted state and a strict conditionality: the application of policy reforms to return the defaulted state to fiscal sustainability. In this emergency procedure, the conditionality would work similarly to the ESM.

(d) *Decisions on the interest rates of EU Treasury credits to member states will be taken by an empowered Eurogroup according to clear and jointly agreed guidelines.*

The transfer scheme will consist of credits provided by the EU Treasury with favourable interest rates according to factors like growth prospects, cyclical position, abidance by fiscal rules and risk factors. The decision-making on the

> interest rates of each country will be the job of the Eurogroup –an intergovernmental institution that manages economic affairs of the euro area, which would see its powers reinforced in the institutional setting we present– according to general guidelines decided beforehand and made secondary EU Law. Alternatively, the Council of Minsters could establish a framework every given set of years, similar to the current budget procedure, where the macroeconomic variables that affect interest rates could be updated to the economic context.

This part focused on the extent to which the principal-agent problem has affected some of the characteristics of the present proposal for an EU Treasury capable of issuing jointly guaranteed debt. In the next part we lay out the institutional design of such proposal and its functioning.

Part 7. Proposal of an institutional design for an EU Treasury with jointly guaranteed debt and a transfer scheme

In this part we detail the proposed system for an institutional design of a EU Treasury capable of issuing jointly guaranteed debt. Besides getting inspiration from the research conducted for this study, the proposal is also inspired in the discussions I held among student peers and lecturers at the *European Student Conference 2016*, at Yale University, the results of which are compiled in the journal *Review of European & Transatlantic Affairs,* Spring 2016.

Part 5 describes the functions of a Treasury according to the notion that the EMU misses some of the characteristics of an Optimum Currency Area (lack of stabilizing fiscal transfers) and other functions that have their origins in the analysis of the Eurozone's sovereign debt crisis (lack of lender of last resort and need for structural reforms). These functions, together with moral hazard and adverse selection concerns, accounted for in Part 6 lead us to attributing the following competences to the EU Treasury:

(a) Issuing of jointly guaranteed Eurobonds
(b) Fiscal transfers scheme via credits at favourable interest rates

(c) An emergency procedure for an orderly default of countries facing a debt crisis
(d) Oversight of member states' fiscal data
(e) Coordination with the Eurogroup and European Commission to enforce fiscal rules
(f) Structural reform policy process
(g) European-wide investment arm

In order to further clarify the competences and functioning of the institutional design, I included a flowchart with most of its functions at the Annex. Bearing in mind these competences, here is how the EU Treasury with Eurobonds would work:

7.1. Description of the institutional design

The most relevant feature of the EU Treasury is its borrowing capacity via Eurobonds. These are 10-year government bonds guaranteed jointly by the fiscal systems of each participating member state. Eurobonds, if created, are expected to be a safe and attractive product for financial markets. Therefore, their interest rate would be low and provide and important source of revenue for the Eurozone. The European Stability Mechanism could be the germ of this EU Treasury and its capital, with additional collateral provided by member states, would be the starting capital of the treasury. The ESM would be absorbed by the Treasury, since its functions would be substituted and expanded by this institution.

The EU Treasury would use the capital collected through bond sales to provide member states with liquidity and finance their deficits. This liquidity would be provided via credit lines at adjustable interest rates. A specific interest rate would be calculated for each country based on macroeconomic criteria: cyclical position, current account imbalances, growth prospects, the amount of credit disposed, etc. A reformed version of the Eurogroup is the more adequate body to perform these calculations. Now the Eurgroup is an informal body of the Eurozone's finance ministers that meet before the ECOFIN. Despite being informal, the Eurgroup has proven ability to foster consensus and influence the policy-making of ministers, the European Commission and the ECB (Uwe Puetter 2006). Both the fact that the Eurogroup already manages euro matters and its capacity to influence on this triangle (member states – Commission – ECB) makes it

an adequate body to perform the calculations of interest rates. Obviously, its administrative capacities and technical bodies should be increased.

As countries service the debt they have with the EU Treasury, this institution would service its own debt with financial markets. In the event that a general economic shock in the Eurozone challenges the whole system and many member states cannot service their loan repayments, the ECB would jump in to provide the necessary liquidity to service the debt with the financial markets. Now the ECB is wary of acting as lender of last resort to few of the nineteen Eurozone Treasuries because of moral hazard concerns. But in this institutional design, the moral hazard would be managed by the policies and institutional design of the EU Treasury. Thus, the ECB could comfortably act as its lender of last resort.

The interest rates of the transfer scheme at which member states would finance their deficits would be calculated according to clear guidelines previously agreed and made secondary EU law. Additionally, the guidelines could be made in a multiannual framework (similar to that of the EU budget), so that member states reform periodically to adapt it to a changing economic context. The guidelines should include two kinds of factors: macroeconomic factors and premium factors. Macroeconomic factors are the ones that depend on macroeconomic variables (growth prospects, cyclical position…) and premium factors are the ones that refer to compliance with fiscal rules and other conditionalities. If a member state abides by the SGP criteria (3% GDP to deficit ratio and 60% GDP to debt ratio), premium rates have no effect whatsoever. Instead, for member states that do not abide by fiscal rules, premium rates are applied as a penalty that increase their interest rates. It is the sort of "carrot and stick" mechanism to gives incentives to member states to abide by fiscal rules so as to avoid moral hazard. This mechanism would work like a risk premia, as it seeks to reproduce the financial market's effect in risk and is inspired in the coupon system of De Grauwe & Moesen's (2009) Eurobonds proposal.

Regardless of the fact that the system includes mechanisms to compel countries to keep balanced budgets (premium factors), a sovereign debt crisis could still occur. To address this eventuality, the EU Treasury will set up an emergency procedure for an orderly default. The default is not expected to trigger a severe crisis further than in the affected

member state, as repayment of investor bonds is guaranteed by the joint collateral of all member states. However, the EU Treasury would probably suffer from higher bond yields in the event of a member state's default. The markets would penalise the EU Treasury and it would translate to the interest rates of member states' credits. In any case, the liquidity to service the bondholders would be guaranteed by the lender of last resort function of the ECB. However, the moral hazard concerns of this emergency procedure are very significant and forces conditionality that is linked to the default of a member state. As a result, the emergency procedure would be subject to strict conditionality, similar to the ESM. Entering the emergency procedure would imply a temporary loss of economic sovereignty, where the state would have to apply austerity measures to return to fiscal sustainability.

In order to promote structural reforms and reduce core-periphery imbalances, the EU Treasury would use the transfer scheme again as a "carrot and stick" system. To this end, the premium factors that determine interest rates –those not linked to macroeconomic data– could be used to offer additional funding. The structural reform would be initiated by the member state and presented to the Eurogroup for amendment. This institution would add recommendations to the reform that align with the assessments at the Macroeconomic Imbalances Procedure. This way, states would not be able to sell cosmetic changes as structural reforms. The member states would then choose to include all or a certain number of recommendations and pass the law. Then the EU Treasury would support the adverse effects of the structural reform by providing a quantity of funding (via a premium factor) that would depend on the number of recommendations added to the law. To reconcile EU involvement in reforms with potential sovereignty concerns of member states, the procedure is only applied if it is started voluntarily by the member state. An exception is made: member states that are under an emergency procedure due to an orderly default.

This mechanism to promote structural reforms could also be useful for a state that must enact structural reforms in the midst of a recession. Let's imagine a scenario in which a country has negative growth figures. Its interest rates are expected to help in its return to positive growth. Additionally, the premium factors could help a country in recession that is willing to undertake the structural reforms to improve economic performance. Then, the reform would also be bilaterally agreed with the Eurogroup to include the

general interest of the Eurozone. Provided that the member state implements the reform –which would probably have adverse consequences at first– a negative premium factor could be applied to lower its interest rates even more.

To prevent moral hazard in the system, the EU Treasury –together with the European Commission– would be in charge of the mechanism oversight. These institutions would have access to member states' fiscal data to guarantee that macroeconomic factors like deficit and debt are properly disclosed. Together with the Commission, the EU Treasury would issue annual reports on the relevant macroeconomic data to contrast it with the one managed in the Eurogroup, that would be used to perform the calculations of interest rates.

This proposal has also considered that the EU Treasury could feature a limited amount of supranational spending. As we have determined in Part 5, the infrastructure needs of Europe are significant and fund availability is not always there. While the decision-making of the infrastructure needs would take place in EU institutions, the EU Treasury would dispose of joint funds to invest in projects that require an EU-wide perspective

7.2. Notes on the proposed accountability of an EU Treasury

Although it is not the main goal of the present study, I want to acknowledge and briefly consider that the institutional design descried above would require democratic accountability and checks and balances between institutions. The accountability here described is inspired in that proposed by the Jaques Delors Institute for an economic government that manages a common budget and that envisions an economic finance minister by merging the positions of the President of the Eurogroup and the Commissioner of Economic and Financial Affairs (Enderlein and Haas 2015).

We have given significant powers to the Eurogroup, up until making it the germ of a centralized economic government. This is why the Eurogroup in our proposal should be more accountable than it currently is. To being with, the president of the Eurogroup would be now considered a finance minister of the Eurozone. This position could be merged with the Commissioner of Economic and Financial Affairs, to equip it with greater legitimacy. The President of the European Commission (with the reinforced

democratic legitimacy from the Spitzenkandidaten process) and the European Council (representing member states) would jointly agree on the person that would become the EU Finance Minister. His or her competences would be those of the EU Treasury and those of the position of Commissioner, some of them relative to member states that are not part of the Eurozone. At all times, the EU Finance Minister would need to retain the trust of both sides, the Commission and the member states. The length of its mandate would depend on that of the Commission.

It is important to note that the Eurogroup would now have limited, but relevant legislative powers when entering in bilateral agreement with governments to promote structural reforms. This legislative power should be accountable to the European Parliament. While the European Parliament would not be able to remove the EU Finance minister, there would be accountability via hearings and spending scrutiny. For example, EU-wide investments funded by the EU Treasury would be monitored by the Parliament.

Part 8. Conclusions

It is difficult for the EMU to become an optimum currency area, as dictated by OCA Theory. The set of characteristics that define such an area are easy to comply for federations, but not for a unique currency area like the EMU, a set of sovereign states that decided to delegate monetary policy to a centralised authority, but are very wary of delegating more competences.

The Eurozone crisis and its troublesome resolution made evident that the Maastricht system was lacking some fundamental tools to prevent and deal with asymmetric shocks. For example, if we look at OCA Theory, as proposed by Peter Kenen (1969), an optimum currency area should have fiscal transfers to mitigate this shocks. A centralised transfer scheme in the EMU could have mitigated their effects.

Another characteristic of the EMU that aggravated the consequences of a crisis is that, under asymmetric shocks, the affected countries do not have control over their currency to deal with the downturn with currency devaluation. This is a well-known setback of any currency area.

The crisis has also made evident how volatile the Eurozone's sovereign bond market can be. When a country faces a sovereign debt crisis and investors sell its bonds, the can very easily buy other bonds by trustworthy countries with the euros obtained. This increases volatility during a sovereign debt crisis and makes the Euro area financially unstable.

Partly, this is because there is a fundamental missing piece in the original Maastricht system: the lack of a clear lender of last resort. This is made evident by the fact that the sovereign debt crisis ended when the ECB hinted at the possibility of acting as such. Lacking fiscal transfers and real labour mobility, the EMU grew important imbalances that created two blocks: one with low inflation and current account surpluses and one with high inflation and current account deficits. The crisis aggravated the imbalances and are creating a two-speed euro.

That is why during the crisis the idea that the EMU was missing some components gained momentum. Proposals addressed several possibilities: adding some sort of centralised authority equipped with a transfer scheme, issuing jointly guaranteed debt to regain market creditworthiness, taxation at the European level, welfare spending at the European level and others. While some of the ideas were considered by the European institutions, the political momentum was not there and the reforms to address the crisis consisted in creating a permanent bailout fund, enhanced fiscal cooperation and a Banking Union.

The present study explores the idea of putting a centralised authority capable issuing mutualised debt and equipped with a transfer scheme that adds the missing components to the EMU. With this feature, the Eurozone would be more ready to confidently deal with asymmetric shocks, like the ones suffered between 2009-2012. To do it, we also delved into the reasons that explain why further integration was dismissed as a solution to the crisis.

In order to explain why it is so challenging to follow the road of fiscal union, the present study has analysed how the principal-agent problem and the problems it creates (moral hazard and adverse selection) are built into the system of the EMU and

discourage further integration. This is no different than in any other federation, but the uniqueness of the EMU –the fact that states are attached to the sovereignty they always enjoyed– makes moral hazard and adverse selection even more influential.

This study has considered two indispensable features of a system resilient to crisis: to restore the treasury-central bank axis (the lender of last resort function) and to create a transfer scheme that depends on macroeconomic criteria. To this end, we propose the creation of a EU Treasury and the issuance of jointly guaranteed debt (Eurobonds).

With a centralised Treasury the ECB would be able to perform the lender of last resort function comfortably, as any moral hazard issues would be dealt with at the institutional design. This would give much more creditworthiness to the EMU and it is unlikely that an asymmetric shock would ever unease financial markets, as it did during the Eurozone crisis. Eurobonds would bring other benefits, like cheaper borrowing costs to member states at the periphery. They would relief their national finances, give automatic stabilizers more room to work and thus ensure debt sustainability and prevent the social consequences of recessions.

However, Eurobonds pose a very challenging moral hazard problem. They would result in higher borrowing cost for core member states and the states that benefit from debt pooling might exploit the system at their benefit. In consequence, jointly guaranteed debt always goes parallel to more oversight and stricter fiscal rules that address the moral hazard concerns. One can say the same of the transfer scheme. Countries that benefit from the system might tend to exploit it. This is why the transfer scheme must also be accompanied with fiscal rules.

Rather than stopping here this academic study also featured a proposal for a unique institutional design that could perform this functions. The EU Treasury would raise funds via debt issuing that would then service to member states at favourable interest rates according to macroeconomic variables, so the system also becomes a transfer scheme.

An EU Treasury could perform many other tasks. The EU Treasury here envisioned would also feature a policy process to promote structural reforms that reduce

imbalances and an emergency default system for insolvent states that further guards from moral hazard and ensures debt repayment to investors. I also considered an investment function that would allocate some funding to fill infrastructure gaps.

The proposal also considers moral hazard and adverse selection, which will affect any future development of fiscal union in the EMU. To this end, the transfer scheme is used as a "carrot and stick" system to compel countries to keep fiscal balances in line with fiscal rules.

Finally, I also briefly discussed the accountability of the EU Treasury, since such an important step in integration would surely require a reinforcement of institutions that should be more accountable to the European Parliament and to the Council.

The proposal tries to balance the need to comply with OCA Theory and the need to restore the lender of last resort function while trying to respect state sovereignty as much as possible. Here is where its main imperfections lie: For sovereign states as old as the European ones, the abandonment of their borrowing capacity via financial markets to financing themselves through a centralised authority is a considerable loss of sovereignty.

It is also worth noting that fiscal integration in the EMU will probably begin with smaller compromises (probably a small, centralised budget and transfer scheme without debt pooling), because of the political difficulties of fiscal integration. Eurobonds are constantly being discussed by the European institutions, but its window of opportunity is not there yet. It would also require of member states to have a clear will for more European integration, something we do not see much of these days.

Part 9. References

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Part 10. Annex

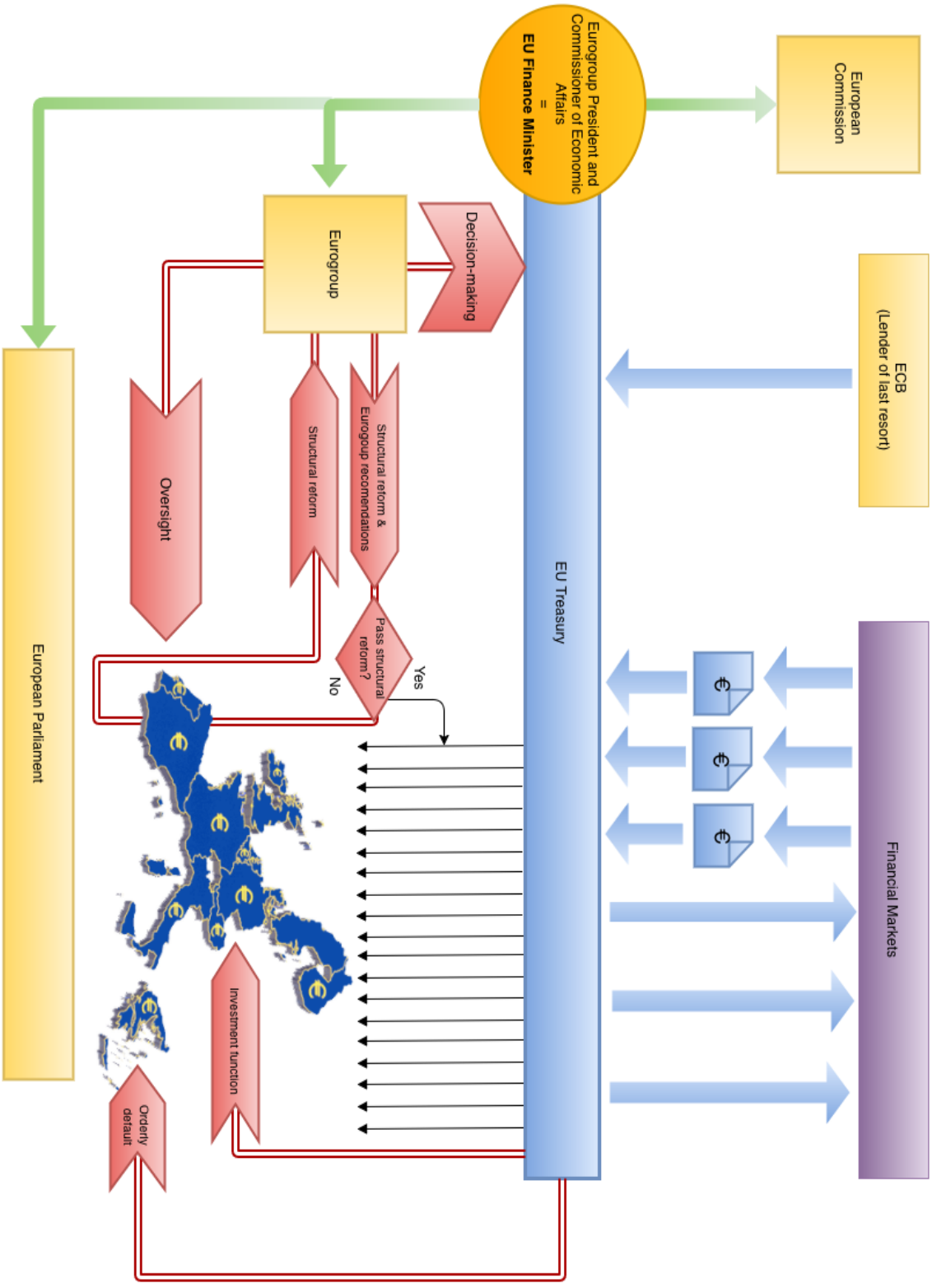

Figure 3 – Flowchart of the EU Treasury – Own design